

Complete Summary

GUIDELINE TITLE

Preventive services for adults.

BIBLIOGRAPHIC SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2006 Oct. 82 p. [152 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Preventive services in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2005 Oct. 81 p.

COMPLETE SUMMARY CONTENT

SCOPE
 METHODOLOGY - including Rating Scheme and Cost Analysis
 RECOMMENDATIONS
 EVIDENCE SUPPORTING THE RECOMMENDATIONS
 BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
 QUALIFYING STATEMENTS
 IMPLEMENTATION OF THE GUIDELINE
 INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT
 CATEGORIES
 IDENTIFYING INFORMATION AND AVAILABILITY
 DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Preventable diseases or conditions, such as:

- Coronary heart disease
- Tobacco or alcohol use/abuse
- Infectious diseases, such as pneumococcal pneumonia, influenza, tetanus, diphtheria
- Cervical cancer, colorectal cancer, breast cancer
- Hypertension
- Vision impairment

- Chlamydia
- Dyslipidemia
- Folic acid deficiency
- Depression
- Hearing impairment
- Obesity
- Osteoporosis and osteoporotic fractures
- Abdominal aortic aneurism

The guideline developers also discuss, but make no specific recommendations for, preventive services related to the following conditions:

- Anxiety and stress
- Dental and periodontal diseases
- Domestic violence and abuse
- Drug abuse
- Traumatic injury due to motor vehicle and bicycle accidents, fire injury, falls, hot water, firearm injuries
- Menopause
- Preconception/maternal health
- Prostate cancer
- Sexually transmitted infections (other than chlamydia)
- Skin cancer
- Unintended pregnancy
- Ovarian cancer
- Anemia
- Hypothyroidism
- Tuberculosis

GUIDELINE CATEGORY

Counseling
Evaluation
Prevention
Risk Assessment
Screening

CLINICAL SPECIALTY

Family Practice
Geriatrics
Internal Medicine
Obstetrics and Gynecology
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Health Plans
Hospitals

Managed Care Organizations
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To provide a comprehensive approach to the provision of preventive services, counseling, education, and disease screening for average-risk, asymptomatic adults
- To increase regular use of health risk assessments
- To increase the percentage of patients with all Level I preventive services on time. (See Table 1: Preventive Services Which Providers and Care Systems Must Deliver (Based on Best Evidence) in the "Major Recommendations" field

TARGET POPULATION

Average-risk, asymptomatic adults

Note: This guideline generally does not address the needs of pregnant women, individuals with chronic disorders, or high-risk populations (there are occasional exceptions where noted).

INTERVENTIONS AND PRACTICES CONSIDERED

Screening

Screening maneuvers including:

- Risk stratification and health assessment
- Use nearly every patient contact to identify and address preventive service needs
- Tobacco use screening
- Papanicolaou smear
- Colorectal cancer screening
- Hypertension screening via blood pressure measurement
- Vision screening via objective visual acuity testing (Snellen chart)
- Mammogram
- Chlamydia screening
- Problem drinking screening
- Total cholesterol and high-density lipoprotein (HDL) measurement
- Depression screening
- Subjective hearing testing
- Height and weight measurement and calculation of body mass index (BMI)
- Osteoporosis screening via bone mineral density (BMD) testing
- Abnormal aortic aneurysm screening

Counseling

Counseling and education on the following topics:

- Tobacco cessation

- Alcohol use/abuse

Prevention

1. Aspirin, calcium, and folic acid chemoprophylaxis
2. Immunizations, including:
 - Influenza vaccine
 - Pneumococcal vaccine
 - Tetanus-diphtheria booster

Additionally, the following preventive services are discussed, but there is insufficient evidence to warrant a recommendation:

- Counseling about advance directives
- Counseling about anxiety and stress
- Clinical breast examination
- Screening for and counseling about dental and periodontal health
- Screening for and counseling about domestic violence and abuse
- Screening for and counseling about drug abuse
- Counseling about injury prevention
- Hormone replacement therapy for menopause
- Counseling regarding nutrition and physical activity
- Preconception counseling
- Screening for prostate specific antigen (PSA) and digital rectal exam of the prostate
- Screening for and counseling about sexually transmitted infection (other than chlamydia)
- Screening for and counseling about skin cancer
- Counseling about unintended pregnancy prevention

MAJOR OUTCOMES CONSIDERED

- Effectiveness of screening tests
- Effectiveness of counseling and education
- Effectiveness of immunization and chemoprophylaxis
- Predictive value of screening tests

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Key conclusions (as determined by the work group) are supported by a conclusion grading worksheet that summarizes the important studies pertaining to the conclusion. Individual studies are classed according to the system presented below, and are designated as positive, negative, or neutral to reflect the study quality.

Conclusion Grades:

Grade I: The evidence consists of results from studies of strong design for answering the question addressed. The results are both clinically important and consistent with minor exceptions at most. The results are free of any significant doubts about generalizability, bias, and flaws in research design. Studies with negative results have sufficiently large samples to have adequate statistical power.

Grade II: The evidence consists of results from studies of strong design for answering the question addressed, but there is some uncertainty attached to the conclusion because of inconsistencies among the results from the studies or because of minor doubts about generalizability, bias, research design flaws, or adequacy of sample size. Alternatively, the evidence consists solely of results from weaker designs for the question addressed, but the results have been confirmed in separate studies and are consistent with minor exceptions at most.

Grade III: The evidence consists of results from studies of strong design for answering the question addressed, but there is substantial uncertainty attached to the conclusion because of inconsistencies among the results of different studies or because of serious doubts about generalizability, bias, research design flaws, or adequacy of sample size. Alternatively, the evidence consists solely of results from a limited number of studies of weak design for answering the question addressed.

Grade Not Assignable: There is no evidence available that directly supports or refutes the conclusion.

Study Quality Designations:

The quality of the primary research reports and systematic reviews are designated in the following ways on the conclusion grading worksheets:

Positive: indicates that the report or review has clearly addressed issues of inclusion/exclusion, bias, generalizability, and data collection and analysis.

Negative: indicates that these issues (inclusion/exclusion, bias, generalizability, and data collection and analysis) have not been adequately addressed.

Neutral: indicates that the report or review is neither exceptionally strong nor exceptionally weak.

Not Applicable: indicates that the report is not a primary reference or a systematic review and therefore the quality has not been assessed.

Classes of Research Reports:

A. Primary Reports of New Data Collection:

Class A:

- Randomized, controlled trial

Class B:

- Cohort study

Class C:

- Non-randomized trial with concurrent or historical controls
- Case-control study
- Study of sensitivity and specificity of a diagnostic test
- Population-based descriptive study

Class D:

- Cross-sectional study
- Case series
- Case report

B. Reports that Synthesize or Reflect upon Collections of Primary Reports:

Class M:

- Meta-analysis
- Systematic review
- Decision analysis
- Cost-effectiveness analysis

Class R:

- Consensus statement
- Consensus report
- Narrative review

Class X:

- Medical opinion

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

The guideline developers reviewed published cost analyses.

METHOD OF GUIDELINE VALIDATION

Clinical Validation-Pilot Testing
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Institute Partners: System-Wide Review

The guideline annotation, discussion, and measurement specification documents undergo thorough review. Written comments are solicited from clinical, measurement, and management experts from within the member groups during an eight-week review period.

Each of the Institute's participating member groups determines its own process for distributing the guideline and obtaining feedback. Clinicians are asked to suggest modifications based on their understanding of the clinical literature coupled with their clinical expertise. Representatives from all departments involved in implementation and measurement review the guideline to determine its operational impact. Measurement specifications for selected measures are developed by the Institute for Clinical Systems Improvement (ICSI) in collaboration with participating member groups following implementation of the guideline. The specifications suggest approaches to operationalizing the measure.

Guideline Work Group

Following the completion of the review period, the guideline work group meets 1 to 2 times to review the input received. The original guideline is revised as necessary, and a written response is prepared to address each of the responses received from member groups. Two members of the Committee on Evidence Based Practice carefully review the input, the work group responses, and the

revised draft of the guideline. They report to the entire committee their assessment of four questions: (1) Is there consensus among all ICSI member groups and hospitals on the content of the guideline document? (2) Has the drafting work group answered all criticisms reasonably from the member groups? (3) Within the knowledge of the appointed reviewer, is the evidence cited in the document current and not out-of-date? (4) Is the document sufficiently similar to the prior edition that a more thorough review (critical review) is not needed by the member group? The committee then either approves the guideline for release as submitted or negotiates changes with the work group representative present at the meeting.

Pilot Test

Member groups may introduce the guideline at pilot sites, providing training to the clinical staff and incorporating it into the organization's scheduling, computer, and other practice systems. Evaluation and assessment occurs throughout the pilot test phase, which usually lasts for three-six months. At the end of the pilot test phase, ICSI staff and the leader of the work group conduct an interview with the member groups participating in the pilot test phase to review their experience and gather comments, suggestions, and implementation tools.

The guideline work group meets to review the pilot sites' experiences and makes the necessary revisions to the guideline, and the Committee on Evidence Based Practice reviews the revised guideline and approves it for release.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC) and the Institute for Clinical Systems Improvement (ICSI): For a description of what has changed since the previous version of this guidance, refer to "[Summary of Changes -- October 2006](#)."

Recommendations for preventive services in adults are presented in the form of an algorithm with 8 components, accompanied by detailed annotations. An algorithm is provided for [Preventive Services for Adults](#). Clinical highlights and selected annotations (numbered to correspond with the algorithm) follow.

The services in this guideline are organized into four groups, based on their evidence of effectiveness and their priority ranking, as follows:

Level I Preventive Services which providers and care systems must deliver (based on best evidence). (Annotation #4)

Level II Preventive Services which providers and care systems should deliver (based on good evidence). (Annotation #5)

Level III Preventive Services for which the evidence is currently incomplete. (Annotation #5a)

Level IV Screening maneuvers which are not supported by evidence. (Annotation #5b)

Class of evidence (A-D, M, R, X) and conclusion grade (I-III, Not Assignable) definitions are repeated at the end of the "Major Recommendations" field.

Clinical Highlights

- All clinic visits, whether acute, chronic, or for preventive services are opportunities for prevention. Incorporate appropriate preventive service at every opportunity. (Annotation #3)
- Assess patients for risk factors at periodic intervals. (Annotation #2)
- Address or initiate adult preventive services which providers and care systems must deliver (based on best evidence) (Level I) (Annotation #4)
 - a. Aspirin chemoprophylaxis counseling
 - b. Tobacco use screening and brief intervention
 - c. Colorectal cancer screening
 - d. Hypertension screening
 - e. Influenza immunization
 - f. Pneumococcal immunization
 - g. Problem drinking screening and brief counseling
 - h. Vision screening
 - i. Cervical cancer screening
 - j. Total cholesterol and high-density lipoprotein (HDL) cholesterol screening
 - k. Breast cancer screening
 - l. Chlamydia screening
 - m. Calcium chemoprophylaxis counseling

[Preventive Services for Adults Algorithm Annotations](#)

1. System Alerts Patient/Parent or Provider of Needed Preventive Services

Clinics must determine some way of communicating what has been done, what needs to be done, etc. This may be a paper face sheet in the patient's chart, electronic postcard reminders, or pop-ups on computer screen, for example. The ideal system at a minimum alerts providers, the appointment desk and others at each contact, and even better if it alerts patient and the health team independent of patient-initiated contact.

The advent of the electronic health record has supported the trend of providing appropriate preventive services exactly when indicated, therefore lessening the need for the periodic exam as an organizing construct.

2. Perform Risk Stratification and Health Assessment at Least Every Five Years

In order to provide preventive services, it is first necessary to know which services are needed by individual patients. This includes both knowing when their last services were provided and what risk factors they have. This

information may be most efficiently collected through the use of questionnaires or automated ways of combining information from the medical record with patient-collected information. Nursing or reception staff can collect this information, or increasingly it may be collectible through internet and web-based technologies. As important as collecting data thoroughly is having some way to update the information at regular intervals. One-on-one interviews by clinicians are the least efficient way to obtain or update this information.

Sample preventive risk assessment forms are available through the ICSI Knowledge Products and Resources in the "Support for Implementation" section of the original guideline document.

3. Use Every Opportunity for Prevention

Nearly every patient contact for any reason should be used to identify and address preventive service needs.

Possible examples might include the following:

- A 55-year-old female patient calls requesting an appointment for preventive visit, which would trigger the scheduler to ask patient about need for mammogram. The scheduler could simultaneously schedule both appointments.
- As a 65-year-old patient is roomed for a routine visit, the rooming nurse asks whether the patient has had a flu shot yet this year. If not, the nurse relies on standing orders to give the shot.
- A medical group establishes risk lists of patients needing particular preventive services, and assigns a nurse to periodically contact patients on the list, by mail or phone, who have not kept those services up-to-date.

The work group recognizes that urgent or emergent visits may not always present preventive service opportunities.

Prevention Visit Schedules

There is insufficient evidence to recommend one schedule over another in terms of lowering mortality and morbidity, recognizing disability, promoting optimal growth and development, or helping patients achieve longer more productive lives. Many services can be provided during routine visits. Similarly, an assessment of preventive services needs can be incorporated into any visit. The visit schedules recommended in these guidelines may augment a clinic's ability to assure provision of preventive services, but this may be unnecessary over time as effective clinic systems allow the services to be incorporated into other clinic visits. There have been no studies comparing the efficacy of various scheduled frequencies of preventive services visits. Furthermore, little information is available about what patients prefer for preventive visits, although their behavior suggests that a fairly large minority either doesn't believe in the value of existing approaches or cannot afford them. Thus, all existing schedules are attempts to combine various medical

opinions with the frequency required for certain preventive services, especially immunizations and cancer screening tests.

4. Preventive Services Which Providers and Care Systems Must Deliver (Based on Best Evidence) (Level I)

Service	19 to 39 Years	40 to 64 Years	Over 65 Years
Aspirin chemoprophylaxis counseling	Discuss with postmenopausal women, men above age 40, and younger men and women who are at increased risk for coronary heart disease (CHD).		
Tobacco use screening and brief intervention	Assess adults for tobacco use and provide ongoing cessation services.		
Colorectal cancer screening		Ages 50 to 80, or if African American 45 to 80, at appropriate intervals as determined by whichever screening method is chosen.	
Hypertension screening	Blood pressure every 2 years if less than 120/80; every year if 120 to 139/80 to 89 mmHg		
Influenza immunization	Annually between October and March for individuals age 50 and older, those at high risk, and all persons who wish to decrease the likelihood of contracting influenza.		
Pneumococcal (PPV 23) immunization	Immunize high-risk groups once. Re-immunize those at risk of losing immunity once after 5 years.		Immunize at 65 if not done previously. Re-immunize once if 1st received more than 5 years ago and before age 65.
Problem drinking screening and brief counseling	Screen for problem drinking among adults and provide brief counseling.		
Vision screening			Screen adults ages 65 or greater routinely.
Cervical cancer screening	Beginning at age 21 or three years after first sexual intercourse, whichever is earlier; every 3 yrs after 3 consecutive normal Pap smears over 5 years	Every 3 years after 3 consecutive normal Pap smears over 5 years	Women 65 years and older with new sexual partner
Total cholesterol and high-density lipoprotein (HDL) cholesterol	Fasting fractionated lipid screening for men over age 34 every	Fasting fractionated lipid screening for men over age 34 and women over age 44 every five years.	

Service	19 to 39 Years	40 to 64 Years	Over 65 Years
screening	five years		
Breast cancer screening		Annual mammogram for women age 40 to 49 years with high risk factors. Mammogram every 1 to 2 yrs for women age 50 to 75 years.	Mammogram every 1 to 2 yrs for women age 50 to 75 years.
Chlamydia screening	All sexually active women aged 25 years and younger, and older women at increased risk for infection		
Calcium chemoprophylaxis counseling	Counsel adult women to use calcium supplements to prevent fractures.		

4a. Aspirin Chemoprophylaxis Counseling

Services

Aspirin prophylaxis should be discussed with postmenopausal women, men above the age of 40, and younger men and women who are at increased risk for coronary heart disease (CHD) because of tobacco use, dyslipidemia, hypertension, diabetes or family history of premature CHD.

Efficacy

U.S. Preventive Services Task Force (USPSTF) guideline recommends a discussion of aspirin therapy for primary prevention of myocardial infarction with patients at risk of coronary heart disease (CHD).

Estimates of the magnitude of benefits and harms of aspirin therapy vary with an individual's risk for CHD. Estimates of benefits and harms of aspirin therapy to 1,000 individuals are as follows: CHD events avoided, 1-20; major gastrointestinal bleeding events caused, 2-4; hemorrhagic strokes caused, 0-2.

Using a risk calculator provides a more accurate estimate of cardiovascular risk. Prior to publication of the nurses' health study results, the USPSTF concluded that the balance of benefits and harms from aspirin chemoprophylaxis is most favorable in patients at high risk for CHD (five-year risk greater than or equal to 3%), including all postmenopausal women and all men over the age 40.

The optimum dosage of aspirin therapy is not known. Doses of 81 mg per day appear as effective as higher doses.

Evidence supporting this recommendation is of classes: A, M

4b. Tobacco Use Screening and Brief Intervention

Services

Establish tobacco use status for all patients. Provide ongoing cessation services at every opportunity to all tobacco users.

Establish secondhand smoke exposure status for all patients. Advise all patients exposed to secondhand smoke that exposure is harmful. Encourage a smoke-free living and working environment for patients, and assist the exposed patient to communicate with other household members about decreasing smoke in their house. Encourage the patient to support smoking cessation efforts among other household members who use tobacco.

Efficacy

Tobacco use is the single most preventable cause of death and disease in our society. There is good evidence that office-based interventions are effective. Tobacco cessation services are most effective when offered on a regular basis to all patients who use tobacco. The key components of successful office tobacco cessation interventions are:

- Ask about tobacco use and smoke exposure at every opportunity.
- Advise all users to quit.
- Assess willingness to make a quit effort.
- Assist users who are willing to make a quit attempt.
- Arrange follow-up.

These components are best carried out when the entire office staff is organized to provide these services.

Three treatment elements are effective for tobacco cessation intervention: pharmacotherapy, social support for cessation, and skills training/problem-solving. The more intense the treatment, the more effective it is in achieving long-term abstinence from tobacco.

The recommended office intervention incorporates the scientifically-based concept of readiness stages for behavior change. It appears that these stages can focus the clinician message and make it more effective and feasible.

The recommended intervention includes promoting a smoke-free living environment because secondhand smoke is a major contributor to tobacco-related health problems.

Structured physician office-based smoking cessation counseling is more effective than usual care in reducing smoking rates. The addition of telephone-based counseling may result in further improvements in cessation. [Conclusion Grade II: See Conclusion Grading Worksheet A -- Annotation #4b (Smoking Cessation Counseling) in the original guideline document]

Counseling Messages

- Advise tobacco users to quit.

- Assess user's willingness to make a quit attempt.
- Provide counseling depending on readiness-to-quit stage. Provide a motivational intervention if the user is not ready to make a quit effort.
- Assist in quitting if ready to make a quit effort. Negotiate a quit date. Counsel to support cessation and build abstinence skills. Discuss pharmacotherapy. Offer phone line for more assistance.
- Arrange follow-up.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Tobacco Use Prevention and Cessation for Adults and Mature Adolescents](#).

Evidence supporting this recommendation is of class: R

4c. Colorectal Cancer Screening

Key Points:

- Patients between the ages of 50 and 80 or age 45 to 80 for African Americans, should be screened for colorectal cancer at appropriate intervals as determined by whichever screening method is chosen.
- Several different screening methods (fecal occult blood testing, flexible sigmoidoscopy, total colon evaluation, or a combination of methods) are all effective.
- The screening method utilized should be determined by joint decision making by the patient and provider.

Services

The ICSI [Colorectal Cancer Screening](#) guideline (see NGC summary) recommends screening for colorectal cancer in average risk patients 50 to 80 years of age, or 45 to 80 for African Americans. While the best data available support screening between ages 50 and 79, otherwise healthy individuals over the age of 80 may be candidates for screening if their presumed life expectancy is 8 or more years.

Average-risk patients are considered to be individuals with no personal history of polyps or colorectal cancer, no family history of colorectal cancer (one first order relative diagnosed before age 65 or two first order relatives diagnosed at any age), and no family history of adenomatous polyps (first order relative diagnosed before age 60).

Patients with a history of prior adenomatous polyp with villous component or any adenomatous polyp greater than 10 mm, long-standing chronic ulcerative colitis, or a family history of familial polyposis coli or non-polyposis hereditary colorectal cancer are considered to be at high-risk for developing colorectal cancer. These individuals require colonoscopic surveillance every three to five years and fall outside the scope of this guideline.

There is no single "best" test for colorectal cancer screening and the final choice is often best made jointly, based on the clinical judgment of a well informed provider and the preferences of a well informed patient.

Efficacy

The guideline summarizes the evidence for the effectiveness of the various screening tests commonly used for colorectal cancer screening.

Both annual fecal occult blood testing (FOBT) and 60 cm flexible sigmoidoscopy performed every five years have proven benefit in detecting colorectal cancer and adenomatous polyps. The guideline workgroup did not reach absolute consensus as to which screening test is preferable, but does advocate screening by one or both tests. The high false positive rate of FOBT, the inability of flexible sigmoidoscopy to visualize the entire colon, and at least one report that one time combined screening failed to detect 24% of advanced colonic neoplasia, were all noted.

If in the judgment of the provider an examination of the whole colon and rectum is desired, this can be accomplished by either colonoscopy every 5 to 10 years, double contrast barium enema (DCBE) every 5 years, or flexible sigmoidoscopy combined with fluoroscopic barium enema every 5 years. While it is reasonable to assume that these screening methods are as effective as FOBT or flexible sigmoidoscopy, they are not supported by direct evidence that they reduce colorectal cancer mortality. The increased cost, greater risk of colonic perforation, more extensive preparation, and need for greater sedation were all noted.

Computed tomography (CT) colonography (CTC, or "virtual colonoscopy") is superior to FOBT, flexible sigmoidoscopy, and barium enema, and is a viable alternative to colonoscopy for colorectal cancer screening. Its use is limited by cost and reimbursement issues, the high number of extracolonic findings requiring further evaluation, and other issues. CTC may be indicated in settings where the proximal colon cannot be examined by conventional colonoscopy, or in patients where colonoscopy is relatively contraindicated (e.g., anticoagulation).

References/Related Guidelines

See the NGC summary of the ICSI guideline [Colorectal Cancer Screening](#).

Evidence supporting this recommendation is of class: R

4d. Hypertension Screening

Key Points:

- Check blood pressure at least every 2 years.
- Promote a healthy lifestyle to optimize blood pressure control.
- Target blood pressure goal in context of additional cardiovascular risk factors.

Services

To detect and monitor hypertension, blood pressure should be measured at least every two years for adults with blood pressure (BP) less than 120/80 and every year if BP is 120-139/80-89 mmHg. Higher blood pressures should be confirmed and managed per protocol. As a practical matter, this standard may be most reliably implemented if blood pressure is measured at every patient visit.

Efficacy

Periodic Screening in Adults at Patient Visits

Hypertension is an important public health problem that affects 25 to 30% of adult Americans. Hypertension is a major risk factor for ischemic heart disease, left ventricular hypertrophy, renal failure, stroke, and dementia. Conversely blood pressure control is correlated with a reduction in incidence of myocardial infarctions, strokes, and heart failure.

Standardized Blood Pressure Measurement

Accurate, reproducible blood pressure measurement is necessary to ensure correct blood pressure classification and to allow valid comparisons among serial pressure recordings.

Blood Pressure Screening Classification

The relationship between blood pressure measurement and vascular risk is continuous and graded. The risk of cardiovascular disease doubles with each increment of 20/10 above 115/75. Thus the classification of adult blood pressure is somewhat arbitrary.

Confirming Elevation/Education and Risk Factor Assessment

A proposed follow-up schedule based on the initial blood pressure level as well as diabetes, cardiovascular or renal disease and risk factors is noted in the [Hypertension Diagnosis and Treatment](#) guideline (see NGC summary).

Recommend blood pressure confirmation and follow-up within 2 months if the blood pressure is 140 to 159/90 to 94. Recommend blood pressure confirmation and follow-up within one month if the blood pressure is greater than 160/100.

Counseling Messages

- If BP is greater than 120/80, it needs to be confirmed and evaluated in the context of the patient's risk factors.

While the evidence is limited, clinicians may consider encouraging patients to modify lifestyle to promote blood pressure control, especially in the presence of additional risk factors for vascular disease, such as dyslipidemia or diabetes mellitus. Important modifications include weight loss if overweight, limiting alcohol use, nicotine abstinence, increased physical activity and reduced dietary sodium and increased potassium and calcium intake.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Hypertension Diagnosis and Treatment](#).

Evidence supporting this recommendation is of classes: B, C, M, R

4e. Influenza Immunization

Services

Provide immunization annually between October and March for individuals age 50 and older, those at high risk, and all persons who wish to decrease the likelihood of contracting influenza.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Immunizations](#).

Evidence supporting this recommendation is of class: R

4f. Pneumococcal Immunization

Services

Immunize high-risk groups once. Re-immunize those at risk of losing immunity once after five years. Immunize at 65 if not done previously. Re-immunize once if first received was greater than five years ago and before age 65.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Immunizations](#)

Evidence supporting this recommendation is of class: R

4g. Problem Drinking Screening and Brief Counseling

Services

The goal is to identify those with risky or hazardous drinking as well as those who have carried that behavior to the point of meeting criteria for dependence, and then provide a brief intervention. In the U.S., risky/hazardous drinking is defined as the number of standard drinks (12 oz. beer, 1 glass of wine, or mixed drink) in a given time period:

- Women: greater than 7 drinks/week or greater than 3 drinks/occasion
- Men: greater than 14 drinks/week or greater than 4 drinks/occasion

This can be done by having the clinician or (preferably) rooming nurse simply ask about the quantity drunk, using a simple questionnaire with the same questions on it, or using a formal validated screening questionnaire, of which the AUDIT is best (10 questions, created by the World Health Organization [WHO], extensively

validated, and included in Appendix B, "Counseling and Education Tools: Problem Drinking" of the original guideline document).

Other questionnaires, especially the 4 question CAGE (also in Appendix B of the original guideline document) are primarily designed to identify those with dependence, so don't include questions about the quantity/frequency.

Efficacy

The U.S. Preventive Services Task Force in 2004 "found good evidence that screening in primary care settings can accurately identify patients whose levels or patterns of alcohol consumption do not meet criteria for alcohol dependence, but place them at risk for increased morbidity and mortality." It also "found good evidence that brief behavioral counseling interventions with follow-up produce small to moderate reductions in alcohol consumption that are sustained over 6- to 12-month periods or longer." It gave these recommendations a B rating.

Counseling Messages

Brief counseling should follow the 5A model (a variation on tobacco intervention guideline):

- Assess current and historical use of alcohol.
- Advise patients to reduce use to moderate levels.
- Agree on individual goals for reduction or abstinence.
- Assist with motivation, skills, and supports.
- Arrange follow-up support and repeated counseling, including referral if needed.

Other messages that may be of value include:

- Advise all females of childbearing age of the harmful effects of alcohol on a fetus and the need for cessation during pregnancy.
- Reinforce not drinking and driving.
- Advise patients not to ride with someone under the influence of alcohol and to prevent him or her from driving.

References/Related Guidelines

See Appendix B, "Counseling and Education Tools: Problem Drinking" in the original guideline document for the CAGE Questionnaire and AUDIT Structured Interview.

Evidence supporting this recommendation is of classes: M, R

4h. Vision Screening

Services

Objective vision testing (Snellen chart) is recommended only for asymptomatic elderly adults.

Efficacy

No studies have directly demonstrated a relationship between vision screening and improved usual corrected vision, improved quality of life, or activities of daily living. Vision screening has been recommended for elderly adults by the USPSTF based upon separate evidence of high prevalence of under-corrected impairments, the accuracy of screening tests, the effectiveness of eye glasses, and the willingness of some individuals to follow-through with additional screening and purchase of eye glasses.

A review of epidemiologic studies conducted in the United States, United Kingdom, and Australia concluded that the prevalence of under-corrected visual impairment is about 10% between the ages of 65 and 75 and 20% above the age of 75. These summary estimates include only one U.S. study, but are generally consistent with other U.S. studies.

Evidence supporting this recommendation is of classes: A, B, C, R

4i. Cervical Cancer Screening

Services

All women should be screened for cervical cancer beginning at age 21 or within three years after initiating sexual intercourse, whichever is earlier. Screening should be performed every three years after three consecutive normal Pap smears over five years.

For women who have had a total hysterectomy for benign disease, and who do not have a history of cervical intraepithelial neoplasia (CIN) 2/3, Pap smears are no longer indicated.

After age 65, there is no clear evidence for continuing Pap smears in women who have had previous normal screening. Women age 65 and older who have a new sexual partner should resume routine screening.

Human papilloma virus (HPV) testing may be used as an adjunct to Pap smear screening to help minimize unnecessary colposcopies and other interventions.

Women who have had dysplasia on prior Pap smears should continue with annual screening for five years after the last dysplastic pap smear; after that, they need only every-three-year screening.

Women with a history of CIN 2/3 and a subsequent total hysterectomy for benign disease may discontinue Pap smears after three consecutive normal tests within a ten-year period.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Initial Management of Abnormal Cervical Cytology \(Pap Smear\) and HPV Testing](#).

Evidence supporting this recommendation is of classes: C, M, R

4j. Total Cholesterol and HDL-Cholesterol Screening

Key Points:

- Screen men over age 34 and women over age 44 with serum cholesterol fractionation measurement every five years.
- The decision to screen men aged 20 to 34, and women aged 20 to 44, should be based on risk for coronary heart disease (CHD) and the individual preferences of the patient.
- Patients with low-density lipoprotein (LDL)-cholesterol 130 mg/dL or more, or HDL-cholesterol less than 40 mg/dL, or have a triglyceride level of 200 mg/dL or more should follow treatment recommendations as outlined in the NGC summary of the ICSI guideline [Lipid Management in Adults](#).

Services and Counseling Messages

A fasting fractionated lipid screening is recommended for men over age 34 and women over age 44 every five years.

If probability of a return visit is low and patient is not fasting, consider checking total cholesterol and HDL-cholesterol. If available, also consider measuring direct LDL-cholesterol.

Based on risk assessment, patients and providers should discuss the issues surrounding lipid screening with men between the ages of 20 and 34 years and women between the ages of 20 and 44 years. A specific example would be the need to screen those men aged 20 to 34 years and women aged 20 to 44 years with first-degree relatives with total cholesterol greater than 300 or history of premature CHD.

Individuals with total cholesterol less than 200, LDL less than 130, triglyceride less than 200, and HDL of 40 or above have a desirable cholesterol level and should be advised to repeat cholesterol fractionation in five years.

Individuals with total cholesterol greater than or equal to 200, LDL greater than or equal to 130, triglyceride greater than or equal to 200, and HDL less than 40 may be at higher risk of vascular disease and these patients should follow treatment recommendations as outlined in the NGC summary of the ICSI guideline [Lipid Management in Adults](#).

Patients whose screening recommendations would be different include those who:

- Have histories of CHD, cerebrovascular disease (CVD), peripheral vascular disease (PVD), diabetes mellitus (DM), metabolic syndrome, or who are being case managed for dyslipidemia. Their disease management will involve a more aggressive approach to lipid monitoring.
- Have health status or life expectancy which would not be affected by knowledge of their lipid status (e.g., those with comorbid conditions such as terminal cancer).

- Are in circumstances where cholesterol levels may not represent their usual levels. These situations include acute illness, hospitalization, unintended weight loss, pregnancy, or lactation within the previous three months. Screening should be delayed under these circumstances.

Lipid testing is recommended because elevated LDL, elevated triglycerides, or/and low HDL are important risk factors for CHD. Treatment of these risk factors is readily available and significantly decreases the risk for CHD.

Efficacy

There is good evidence that lipid measurements can identify in men greater than age 34 years and women greater than age 44 years individuals at increased risk of CHD and good evidence that treatment substantially reduces the incidence of CHD.

No clinical trials address the treatment of dyslipidemia among men aged 20 to 34 years and among women aged 20 to 44 years. Screening should be individualized for patients in these age groups.

Fractionated cholesterol is the most effective screening test for dyslipidemia because elevated LDL and triglycerides or low HDL are risk factors for vascular disease.

Some patients should not be offered lipid screening as outlined in this guideline. It is well recognized that cholesterol interpretation depends on the presence of other risk factors for large vessel disease. Patients with diabetes mellitus are at high risk for large vessel disease and for that reason should undergo aggressive lipid management. Patients with CAD, PVD, and/or CVD should also be aggressively managed for dyslipidemia.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Lipid Management in Adults](#).

Evidence supporting this recommendation is of classes: A, B, C, M, R

4k. Breast Cancer Screening

Services

Screening mammogram every 1 to 2 years is recommended for women age 50 to 75 years.

Mammograms may be performed at the mutual consent of the patient and provider in women over the age of 75.

Women age 40 to 49 years with high risk factors should initiate annual screening. High risk factors include:

- Previous breast biopsy demonstrating atypical hyperplasia

- Family history of breast cancer in the patient's mother, sister, or daughter
- Past personal history of breast cancer

The evidence for mortality reduction for low risk women of this age group is less clear.

Efficacy

The most important tool in the early detection of breast cancer is screening mammography. The USPSTF updated its recommendation in 2002, finding "fair evidence that mammography screening every 12 to 33 months significantly reduces mortality from breast cancer." They concluded that the evidence is strongest for women aged 50 to 69 and that the clinical trials reveal no clear difference due to interval within the 12 to 33-month time range. Their recommendation is for "mammography, with or without clinical breast exam (CBE) every 1 to 2 years for women aged 40 and older." This extension to the 40 to 49 year old group has been controversial.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Diagnosis of Breast Disease](#).

Evidence supporting this recommendation is of classes: M, R

4I. Chlamydia Screening

Services

Routine screening for chlamydia is recommended for all sexually active women aged 25 years and younger and older women at increased risk for infection.

Risk factors include:

- Having new or multiple sex partners
- Having prior history of a sexually transmitted infection (STI)
- Not using condoms consistently and correctly

Refer to the original guideline document for information on burden of suffering from chlamydia.

Efficacy

The most efficacious means of reducing the risk of acquiring sexually transmitted infections through sexual contact is either abstinence from sexual relations or maintenance of a mutually monogamous sexual relationship with an uninfected partner. Condoms have been shown in the laboratory to prevent transmission of chlamydia trachomatis, herpes simplex virus, trichomonas, cytomegalovirus and human immunodeficiency virus (HIV). Even under optimal conditions, however, condoms are not always efficacious in preventing transmission. Condom failures occur at an estimated rate of 10% to 15% either as a result of product failure or as a result of incorrect or inconsistent use.

Evidence supporting this recommendation is of classes: A, R

4m. Calcium Chemoprophylaxis Counseling

Services

Counsel adult women to use calcium supplements to prevent fractures.

Efficacy

Adequate calcium intake from food sources and supplements promotes bone health. When food sources do not provide enough calcium, supplements can be used to meet this goal. Bioavailability of calcium in food sources and supplements is a factor in achieving daily calcium recommendations. Calcium supplement labels should indicate lead testing.

Daily elemental calcium recommendations for healthy individuals from diet and supplement include:

19 to 50 years - 1,000 milligrams

Over 50 years - 1,200 milligrams

Maximum limit - 2,500 milligrams

However, for people with established osteoporosis, glucocorticoid therapy, pregnant or nursing women, or persons over the age of 65, it may be more appropriate to recommend 1,500 micrograms.

Both low fractional calcium absorption and low dietary calcium intake have been associated with increased fracture risk. Since fractional calcium absorption is affected by multiple factors and decreases with age, adequate lifetime dietary calcium is an important recommendation for bone health.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Diagnosis and Treatment of Osteoporosis](#).

Evidence supporting this recommendation is of class: R

5. Preventive Services Which Providers and Care Systems Should Deliver (based on Good Evidence) (Level II)

Folic Acid Chemoprophylaxis Counseling

Services

Counsel women of childbearing age (15 to 45) to consume 400 micrograms of folic acid per day from food sources and/or supplements.

Efficacy

Neural tube defects (NTDs) are common birth defects, which affect approximately 3,000 pregnancies each year. The occurrence of NTDs is reduced by 50% to 70% with the daily periconceptional consumption of 400 micrograms of folic acid. Not all women receive adequate levels of folic acid in their diets and the 2005 March of Dimes Gallup survey indicated the number taking daily supplements is declining. When asked what would motivate them to take a supplement, the most common reported needs were being sick or a doctor's recommendation.

Counseling Messages

- Eat folic acid-rich foods and fortified foods such as dark-green leafy vegetables; dried beans and peas; whole grain, fortified enriched grain products and breakfast cereals; citrus fruits and berries.
- Take a vitamin supplement containing folic acid.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Routine Prenatal Care](#).

Evidence supporting this recommendation is of classes: A, C, D

Obesity Screening

Key Points:

- Record height, weight and body mass index (BMI) at least annually.

Services

Record height, weight and BMI at least annually. Record physical activity (e.g., Health Risk Assessment Questionnaire, at least every five years).

A BMI greater or equal to 30 is defined as obese, and a BMI of 25 to 29 is defined as overweight. Intensive intervention for obese individuals, based on BMI, is recommended by the U.S. Preventive Services to help control weight. Provide intensive intervention for obese patients or refer to programs offering intensive intervention.

Efficacy

The BMI is reliable and valid for identifying adults at increased risk for mortality and morbidity due to obesity or overweight.

The ICSI guideline, [Prevention and Management of Obesity \(Mature Adolescents and Adults\)](#) (see NGC summary), states that physician intervention can be effective; the physician can have an important influence and successful weight management is possible. This guideline also states that weight management requires a team approach.

The National Weight Control Registry includes over 4,000 adults who have maintained at least a 30-pound weight loss for at least one year. 89% reported using both diet and physical activity for their loss. Over 55% reported receiving some type of weight loss assistance from a commercial program, physician or nutritionist. Most participants (83%) indicated a trigger for their weight loss. Medical triggers were most common (23%). A medical trigger was broadly defined and included such things as their physician telling them to lose weight or a family member having a heart attack. Those who stated medical reasons for their loss also had better initial losses and maintenance. Medical triggers were also associated with less regain during the two-year follow-up.

The U.S. Preventive Services Task Force concludes that there is insufficient evidence to recommend for or against routine behavioral counseling to promote either a healthy diet or physical activity. However, intervention is encouraged due to the numerous benefits associated with consumption of a healthy diet and exercise in the prevention of obesity.

Primary care physicians could have a significant impact on dealing with obesity since it is estimated that they see over 11% of the population every month. Patients who reported receiving advice to lose weight during a routine checkup were more likely to report trying to lose weight than those who did not.

Obese persons should be encouraged to enroll in programs that, at a minimum, have three in-person encounters in a three-month period, but to ensure effectiveness, such patients should be encouraged to enroll in intensive programs that last for a year, combine nutritional and exercise counseling, and have a long-term maintenance program.

References/Related Guidelines

Refer to Appendix C, "Physical Activity Energy Expenditure", and Support for Implementation Section, Knowledge Products and Resources in the original guideline document.

See USDA Dietary Guidelines for Americans:
<http://www.health.gov/DietaryGuidelines/>

USDA Food Pyramid: www.mypyramid.gov

Also see the NGC summaries of ICSI guidelines [Prevention and Management of Obesity \(Mature Adolescents and Adults\)](#), [Lipid Management in Adults](#), [Diagnosis and Treatment of Osteoporosis](#), and [Hypertension Diagnosis and Treatment](#).

Evidence supporting this recommendation is of classes: C, D, M, R

Depression Screening

Services

The USPSTF has recommended routine screening for depression in adult patients, but only if the practice has "systems in place to ensure that positive results are followed by accurate diagnosis, effective treatment, and careful follow-up. Benefits from screening are unlikely to be realized unless such systems are functioning well" (B level evidence). There is now considerable evidence from many randomized trials that it is possible to improve treatment (both medications and counseling) in primary care settings for patients with depression, but these trials have all implemented systematic ways to:

- Provide care management with close follow-up by a nonphysician working with the primary care physician
- Enhance planned collaboration with mental health providers
- Provide education and self-management support

There are many instruments that have been well tested and validated for screening, ranging from two questions to the patient health questionnaire (PHQ)-9, a nine-question survey that is being increasingly used in primary care settings to estimate severity and provide monitoring over time as well as for initial screening. See the NGC summary of the ICSI guideline [Major Depression in Adults in Primary Care](#) for example instruments and recommendations about management.

Efficacy

When combined with systematic management, screening can be very effective.

Counseling Messages

There is no evidence that simple brief messages have any effect.

Evidence supporting this recommendation is of classes: C, M, R

Hearing Screening

Services

Subjective hearing screening (by questionnaire) followed by counseling on the availability of hearing aid devices and making referrals as appropriate is recommended for older adults.

Efficacy

No studies have directly demonstrated a relationship between hearing screening and improved hearing function, hearing-related quality of life, or activities of daily living. Hearing screening has been recommended for elderly adults by the USPSTF based upon separate evidence of high prevalence of hearing impairment, the accuracy and inexpensiveness of simple screening questionnaires, the effectiveness of hearing aids, and the willingness of 40 to 60% of individuals to follow through with additional screening and purchase of

hearing aids. The prevalence of uncorrected hearing loss in the elderly is approximately 25%.

Evidence supporting this recommendation is of classes: A, C

Osteoporosis Screening

Key Messages:

- Assess and discuss risk factors for osteoporosis with all patients presenting for preventive health visits.
- Routinely record serial height measurements and observe for kyphosis.
- Recommend bone mineral density testing for patients at risk for osteoporosis.

Services

The ICSI guideline, [Diagnosis and Treatment of Osteoporosis](#) (see NGC summary) recommends assessing and discussing risk factors for osteoporosis, and its primary prevention, with all patients presenting for preventive health visits.

Record accurate serial height measurements with a stadiometer and observe posture for kyphosis.

All women over age 65, as well as younger women at risk for osteoporosis and subsequent fracture should have bone mineral density testing (BMD) to further define their fracture risk and guide treatment.

Refer to the original guideline document for information on risk factors for osteoporosis.

Central site (spine, hip) bone-density testing is strongly recommended. There is not adequate data to recommend peripheral site (forearm, calcaneal) bone-density testing.

Counseling Messages

Counsel patients regarding osteoporosis prevention and treatment, emphasizing smoking cessation, regular load-bearing exercise, calcium and vitamin D supplementation.

Address pharmacologic options for prevention and treatment of osteoporosis with appropriate patients at risk for or who currently have signs and symptoms of osteoporosis.

References/Related Guidelines

Refer to the NGC summary of the ICSI guideline, [Diagnosis and Treatment of Osteoporosis](#), for specific details regarding pharmacologic management and monitoring of patients with osteopenia or osteoporosis.

Evidence supporting this recommendation is of class: R

Tetanus-Diphtheria Booster Immunization

Services

All adults should have completed a primary Td series. A complete series includes two 0.5 cc intramuscular (IM) doses given four weeks apart and a third dose given 6 to 12 months after the second dose. With the licensure of the adult Tdap, one of the three injections should be Tdap and the other two Td (Tdap is not tested or licensed as a repeated immunization).

For all adults, a 0.5 cc IM booster dose is recommended every 10 years thereafter. If supplies are adequate, and the patient is less than 65, use Tdap – otherwise Td.

Patients age 65 and older should be given Td. It is likely that Tdap will be a valuable vaccine for the elderly, but studies of the vaccine in that age group have not been published.

References/Related Guidelines

See the NGC summary of the ICSI guideline [Immunizations](#).

Abdominal Aortic Aneurysm Screening

Key Points:

- Screening for abdominal aortic aneurysms in men ages 65 to 74 who have ever smoked (greater than 100 cigarettes in lifetime) has been shown to decrease the incidence of abdominal aortic aneurysm rupture mortality (but not all-cause mortality).
- Age, male gender and smoking are the strongest risk factors for abdominal aortic aneurysm development.
- If a man does not have an abdominal aortic aneurysm identified on his first screen after age 65, future rupture or death is very unlikely.

Screening

For men ages 65 to 75 who have ever (greater than 100 cigarettes in lifetime) smoked, a one-time screening ultrasonogram for abdominal aortic aneurysm is recommended.

For men ages 65 to 75 who have never smoked, there are no recommendations for or against a one-time screening ultrasonogram for abdominal aortic aneurysm.

For women, regardless of age or smoking status, screening ultrasonography for abdominal aortic aneurysm is not recommended.

Refer to the original guideline document for information on efficacy of abdominal aortic aneurism screening.

Evidence supporting this recommendation is of classes: A, R

5a. Preventive Services for Which the Evidence Is Currently Incomplete (Level III)

Refer to the original guideline document for information on Level III services including

- Advance directives counseling
- Anxiety and stress counseling
- Clinical breast exam screening
- Dental and periodontal disease counseling
- Domestic violence and abuse screening and counseling
- Drug abuse screening and counseling
- Injury prevention counseling
- Menopause and hormone therapy counseling
- Nutrition and physical activity counseling
- Preconception counseling
- Prostate specific antigen (PSA) screening and digital rectal exam (DRE) of the prostate
- Sexually transmitted infection (STI) (other than chlamydia) screening and counseling
- Skin cancer screening and counseling
- Unintended pregnancy prevention counseling

5b. Screening Maneuvers Which Are Not Supported by Evidence (Level IV)

Refer to the original guideline document for information on Level IV services including

- Blood chemistry panels
- CA 125 and ultrasound (for ovarian cancer screening)
- Coronary heart disease (CHD) routine testing
- Dementia routine testing
- Diabetes routine testing
- Hemoglobin/hematocrit (for anemia screening)
- Thyroid-stimulating hormone (TSH)/thyroxine (for hypothyroidism screening)
- Tuberculin skin testing (routine)
- Urinalysis

Definitions:

Conclusion Grades:

Grade I: The evidence consists of results from studies of strong design for answering the question addressed. The results are both clinically important and

consistent with minor exceptions at most. The results are free of any significant doubts about generalizability, bias, and flaws in research design. Studies with negative results have sufficiently large samples to have adequate statistical power.

Grade II: The evidence consists of results from studies of strong design for answering the question addressed, but there is some uncertainty attached to the conclusion because of inconsistencies among the results from the studies or because of minor doubts about generalizability, bias, research design flaws, or adequacy of sample size. Alternatively, the evidence consists solely of results from weaker designs for the question addressed, but the results have been confirmed in separate studies and are consistent with minor exceptions at most.

Grade III: The evidence consists of results from studies of strong design for answering the question addressed, but there is substantial uncertainty attached to the conclusion because of inconsistencies among the results of different studies or because of serious doubts about generalizability, bias, research design flaws, or adequacy of sample size. Alternatively, the evidence consists solely of results from a limited number of studies of weak design for answering the question addressed.

Grade Not Assignable: There is no evidence available that directly supports or refutes the conclusion.

Classes of Research Reports:

A. Primary Reports of New Data Collection:

Class A:

- Randomized, controlled trial

Class B:

- Cohort study

Class C:

- Non-randomized trial with concurrent or historical controls
- Case-control study
- Study of sensitivity and specificity of a diagnostic test
- Population-based descriptive study

Class D:

- Cross-sectional study
- Case series
- Case report

B. Reports that Synthesize or Reflect upon Collections of Primary Reports:

Class M:

- Meta-analysis
- Systematic review
- Decision analysis
- Cost-effectiveness analysis

Class R:

- Consensus statement
- Consensus report
- Narrative review

Class X:

- Medical opinion

CLINICAL ALGORITHM(S)

A detailed and annotated clinical algorithm is provided for [Preventive Services for Adults](#).

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is classified for selected recommendations (see "Major Recommendations").

In addition, key conclusions contained in the Work Group's algorithm are supported by a grading worksheet that summarizes the important studies pertaining to the conclusion. The type and quality of the evidence supporting these key recommendations (i.e., choice among alternative therapeutic approaches) is graded for each study.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Overall Benefits

Appropriate use of a comprehensive approach to the provision of preventive services, counseling, education, and disease screening for low-risk, asymptomatic adults as demonstrated by:

- Increased regular use of health risk assessments
- Increased percentage of patients with all Level I preventive services on time

POTENTIAL HARMS

Aspirin Chemoprophylaxis

Aspirin therapy has been associated with an increased rate of gastrointestinal bleeding and hemorrhagic stroke. Estimates of the magnitude of benefits and harms of aspirin therapy vary with an individual's risk for coronary heart disease (CHD).

Colorectal Cancer Screening

- Fecal occult blood testing (FOBT) is associated with high false-positive rate.
- Flexible sigmoidoscopy is associated with inability to visualize the entire colon.
- Colonoscopy and flexible sigmoidoscopy are associated with increased cost, greater risk of colonic perforation, more extensive preparation, and need for greater sedation.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- This clinical guideline is designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition. A guideline will rarely establish the only approach to a problem.
- This clinical guideline should not be construed as medical advice or medical opinion related to any specific facts or circumstances. Patients are urged to consult a health care professional regarding their own situation and any specific medical questions they may have.
- It is the guideline development group's assumption that this guideline will primarily serve as a guide for medical groups to develop practice systems for their delivery. While individual clinicians are welcome to refer to this guide, the group does not expect that to be common and it certainly is not the best way to provide important services at high rates. Such an achievement clearly requires the establishment of systems that rely on standing orders, task delegation, reminders, and other automatic ways to identify needs and provide the services.
- While there is good evidence that modifying certain behaviors has positive health benefits (unsafe sex, accidents and safety, nutrition, physical activity), there is minimal evidence at present that screening for these conditions or asking about them in the context of a risk assessment, even if followed by advice from a physician or other provider, will result in a change in behavior or positive outcomes. Therefore, this guideline makes:
 - Minimal recommendations for risk assessment to drive counseling for what are largely lifestyle issues
 - Specific recommendation that risk assessment and counseling about lifestyle not be considered suitable parameters for systematic implementation measures
 - Counseling messages for those clinicians who want to provide such counseling or whose patients express an interest in receiving this information
- Evidence is insufficient to warrant recommendations for a number of preventive services. Refer to the original guideline document for more information (see "Guideline Availability" field in this summary).

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Once a guideline is approved for general implementation, a medical group can choose to concentrate on the implementation of that guideline. When four or more groups choose the same guideline to implement and they wish to collaborate with others, they may form an action group.

In the action group, each medical group sets specific goals they plan to achieve in improving patient care based on the particular guideline(s). Each medical group shares its experiences and supporting measurement results within the action group. This sharing facilitates a collaborative learning environment. Action group learnings are also documented and shared with interested medical groups within the collaborative.

Currently, action groups may focus on one guideline or a set of guidelines such as hypertension, lipid treatment, and tobacco cessation.

Detailed measurement strategies are presented in the original guideline document to help close the gap between clinical practice and the guideline recommendations. Summaries of the measures are provided in the National Quality Measures Clearinghouse (NQMC).

Key Implementation Recommendations

The following system changes were identified by the guideline work group as key strategies for health care systems to incorporate in support of the implementation of this guideline.

Clinics are encouraged to initiate a system by which:

1. Patients complete a risk assessment questionnaire prior to preventive visits, and update as necessary.
2. The results of the questionnaire are used to identify needs for counseling and other preventive services.
3. The provision of needed preventive services is documented and monitored.
4. Patients behind in their preventive visit schedule are identified at routine office visits, and a catch-up plan is created.
5. Develop a risk-assessment questionnaire that allows for easy identification of counseling needs.
6. Risk-assessment questionnaires should be in a consistent and easily accessible place in the patient's chart.
7. Establish a system for consistent documentation and monitoring of counseling.

IMPLEMENTATION TOOLS

Chart Documentation/Checklists/Forms
Clinical Algorithm
Patient Resources

Pocket Guide/Reference Cards
Quality Measures
Resources

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

RELATED NQMC MEASURES

- [Preventive services for adults: percentage of patients with all Level I preventive services on time according to the guideline delivery schedule.](#)

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2006 Oct. 82 p. [152 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1995 Jun (revised 2006 Oct)

GUIDELINE DEVELOPER(S)

Institute for Clinical Systems Improvement - Private Nonprofit Organization

GUIDELINE DEVELOPER COMMENT

Organizations participating in the Institute for Clinical Systems Improvement (ICSI): Affiliated Community Medical Centers, Allina Medical Clinic, Altru Health System, Aspen Medical Group, Avera Health, CentraCare, Columbia Park Medical

Group, Community-University Health Care Center, Dakota Clinic, ENT Specialty Care, Fairview Health Services, Family HealthServices Minnesota, Family Practice Medical Center, Gateway Family Health Clinic, Gillette Children's Specialty Healthcare, Grand Itasca Clinic and Hospital, HealthEast Care System, HealthPartners Central Minnesota Clinics, HealthPartners Medical Group and Clinics, Hutchinson Area Health Care, Hutchinson Medical Center, Lakeview Clinic, Mayo Clinic, Mercy Hospital and Health Care Center, MeritCare, Mille Lacs Health System, Minnesota Gastroenterology, Montevideo Clinic, North Clinic, North Memorial Care System, North Suburban Family Physicians, Northwest Family Physicians, Olmsted Medical Center, Park Nicollet Health Services, Pilot City Health Center, Quello Clinic, Ridgeview Medical Center, River Falls Medical Clinic, Saint Mary's/Duluth Clinic Health System, St. Paul Heart Clinic, Sioux Valley Hospitals and Health System, Southside Community Health Services, Stillwater Medical Group, SuperiorHealth Medical Group, University of Minnesota Physicians, Winona Clinic, Ltd., Winona Health

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GUIDELINE COMMITTEE

Committee on Evidence Based Practice

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

In the interest of full disclosure, ICSI has adopted the policy of revealing relationships work group members have with companies that sell products or services that are relevant to this guideline topic. The reader should not assume that these financial interests will have an adverse impact on the content of the guideline, but they are noted here to fully inform readers. Readers of the guideline may assume that only work group members listed below have potential conflicts of interest to disclose.

No work group members have potential conflicts of interest to disclose.

ICSI's conflict of interest policy and procedures are available for review on ICSI's website at www.icsi.org.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Preventive services in adults. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2005 Oct. 81 p.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](http://www.icsi.org).

Print copies: Available from ICSI, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; telephone, (952) 814-7060; fax, (952) 858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Preventive services for adults. Executive summary. Bloomington (MN): Institute for Clinical Systems Improvement, 2006 Oct. 1 p. Electronic copies: Available in Portable Document Format (PDF) from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](http://www.icsi.org).
- Appendices A-C of the [original guideline document](#) provide various counseling and educational tools.
- ICSI pocket guidelines. April 2006 edition. Bloomington (MN): Institute for Clinical Systems Improvement, 2006. 298 p.

Print copies: Available from ICSI, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; telephone, (952) 814-7060; fax, (952) 858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

PATIENT RESOURCES

The following is available:

- Preventive services for adults. Bloomington (MN): Institute for Clinical Systems Improvement, 2006 Oct. 52 p.

Electronic copies: Available in Portable Document Format (PDF) from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#).

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on May 5, 1999. The information was verified by the guideline developer on July 6, 1999. This summary was updated by ECRI on April 15, 2002, and March 14, 2003. The updated information was verified by the guideline developer on May 15, 2003. This summary was updated again by ECRI on March 22, 2004, November 10, 2004, December 30, 2005, and January 25, 2007.

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